No. 884,497. PATENTED APR. 14, 1908.

D. W. KING.

ROAD GRADER.

APPLICATION FILED JULY 8, 1907.

Fig. 1.

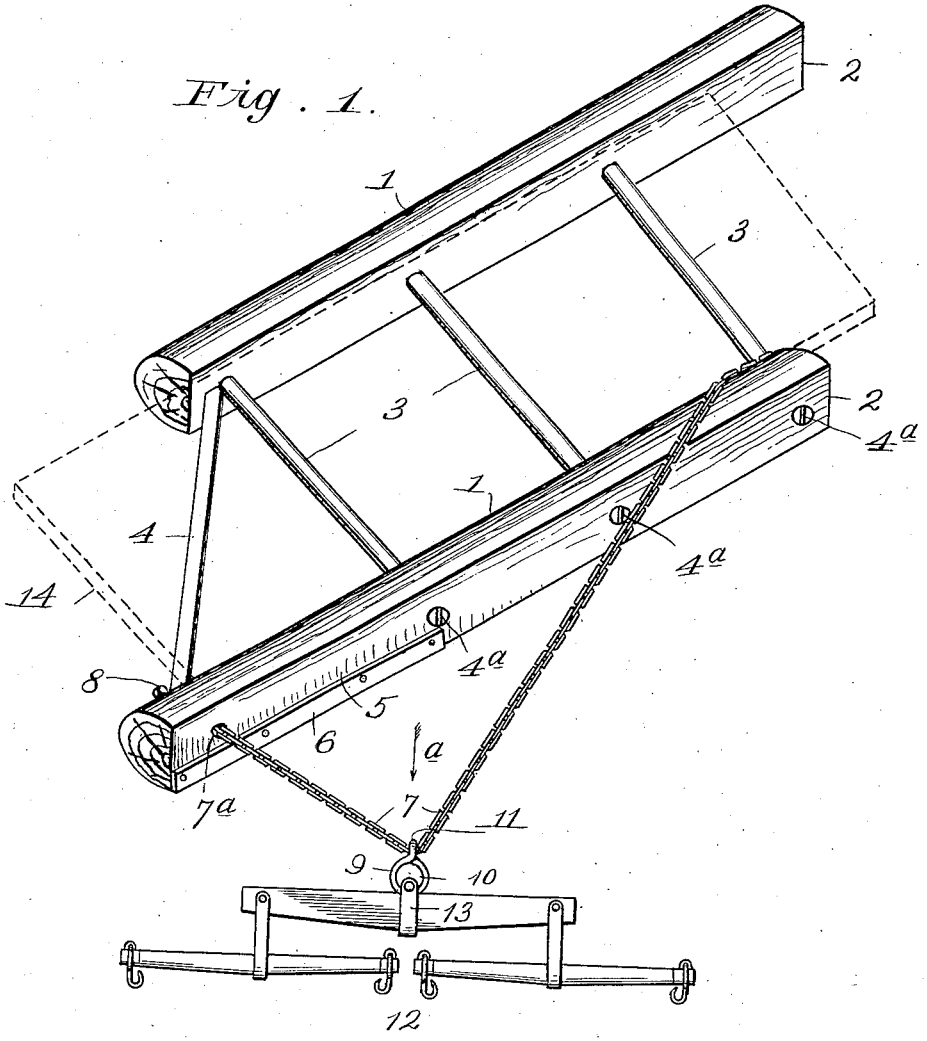
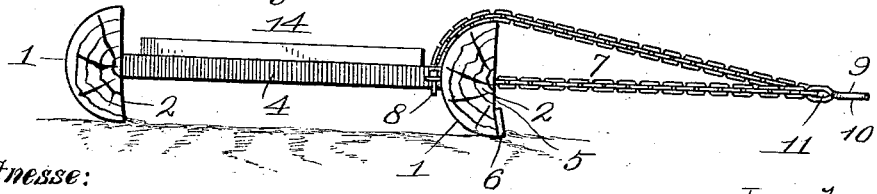


Fig. 2.



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DAVID WARD KING, OF MAITLAND, MISSOURI.

ROAD-GRADER.

No. 884,497. Specification of Letters Patent. Patented April 14, 1908.

Application filed July 8, 1907. Serial No. 382,570.

To all whom it may concern:

Be it known that I, DAVID WARD KING, a citizen of the United States, residing at Maitland, in the county of Holt and State of Missouri, have invented certain new and useful Improvements in Road-Graders, of which the following is a specification.

My invention relates to improvements in road graders; and my object is to provide a simple, efficient and inexpensive grader whereby dirt roads may be placed in good condition and easily maintained in such condition during all kinds of weather at small cost.

In preparing dirt roads it is desirable, first, to have a grader of only sufficient weight to give the road a comparatively smooth surface; second, to have the grader so arranged that it may be set transversely to the line of draft when it is desired to give a flat surface to the road, or adjusted obliquely to the line of draft so that it will move the loose dirt to the center of the road in order to crown the same, and third to have a grader which can be operated by a driver and a two-horse team.

Referring now to the accompanying drawing which illustrates the invention:— Figure 1 represents a perspective view of my improved grader. Fig. 2 represents a side elevation of the same.

In carrying out the invention I employ a pair of parallel scrapers 1, made, preferably, from the halves of a split log, the split side 2 forming the face of each scraper. The scrapers are disposed in such relation to each other that the ends of the rearmost one will set back in line with the ends of the foremost one when the grader is arranged at a certain angle to the line of draft, indicated by arrow *a*, hence the foremost end of the rear scraper will not contact with the bank at the side of the road and thus prevent the foremost end of the front scraper from coming sufficiently close to said bank to do efficient work.

Scrapers 1 are united by a series of bars 3 arranged at right angles thereto and a brace 4 which is arranged at an oblique angle to prevent the forward end of the front scraper from springing backward beneath the strain imposed thereon while the grader is in operation. The ends of the bars and the brace are inserted in auger-holes in the scrapers and reliably secured by wedges 4ª.

To render the grader most efficient, I prefer to have a portion of the face of the foremost scraper inclined rearwardly and upwardly as indicated at 5, so that it will have a chisel-like effect upon the surface of the road, and to protect it from wear I arm it with a metallic blade 6.

7 designates a draft-chain, one end of which extends through a hole 7ª in the forward portion of the front scraper and is adjustably engaged by a nail or bolt 8, so that it may be lengthened or shortened. Its opposite end extends over the rear portion of said scraper and is attached to the rearmost bar 3. By thus arranging said chain its rearmost end will be lifted above the loose dirt and clods which are pushed to the center of the road by the front scraper, and it will be caused to press down upon the rearmost end of the scraper, which pressure, combined with the weight of the grader, will assist in leveling the surface of the road.

The draft-chain is adjustably engaged by a link 9 having an enlarged front portion 10 and a reduced rear portion 11 which latter is too small for the links of the chain to slide through. Hence when it is desired to arrange the scrapers transversely with respect to the road, link 9 is adjusted to a point about midway between the ends of the chain which is then engaged by the reduced portion 11 to prevent the link from sliding upon the chain. Likewise, the scrapers may be arranged at any desired angle by proper adjustment of the link.

12 designates a two-horse evener attached to the link by a clevis 13, so that a two-horse team may be employed in the operation of the grader.

14 designates a platform placed upon the bars 3 and brace 4 for the driver to stand upon, so that he may add his weight to that of the grader and also have better control of the latter.

In practice the force with which the scrapers take hold of the earth may be increased by lengthening the chain, or diminished by shortening the chain as in the latter case the team exerts more of an upward lift on the grader. This force may be further controlled by the driver either standing upon the forward or rear portion of the grader, or if it is desired to have one end of the scrapers engage the earth with greater force than the other, for instance when it is desired to move the loose dirt to the center of the road to crown the same, it is only necessary for the driver to step to the end which it is desired to depress.

From the above description it is apparent that I have produced a grader which is simple in construction, inexpensive to manufacture, and well adapted for the purpose intended.

Having thus described my invention, what I claim is:

1. A grader consisting of two parallel scrapers adapted to be adjusted to any desired angle with respect to the line of draft, a series of bars arranged at right angles to said scrapers and uniting the same, a brace uniting two ends of the scrapers, and a draft-chain having one end secured to the foremost scraper and its opposite end bearing upon said scraper and secured to one of the bars, substantially as described.

2. A grader consisting of two parallel scrapers adapted to be adjusted to any desired angle with respect to the line of draft, a series of bars arranged at right angles to said scrapers and uniting the same, a brace uniting two ends of the scrapers, a draft-chain having one end secured to the foremost scraper and its opposite end bearing upon said scraper and secured to one of the bars, and a link having a reduced end adjustably engaging the draft-chain, for the purpose described.

3. A grader consisting of two scrapers the forward one of which has a hole at one end, bars uniting said scrapers, a draft-chain having one end extending through said hole and its opposite end connected to one of the bars, and means adjustably engaging the end of the chain extending through the hole, for the purpose described.

In testimony whereof I affix my signature in the presence of two witnesses.

DAVID WARD KING.

Witnesses:
E. F. WELLER,
J. E. WELLER.